

## Abarna\_day92

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#include <stdio.h>
#include <stdlib.h>
#include <string.h>

#define MAX_N 100
#define MAX_M 30
#define MAX_ATOMS (1 << MAX_M)

int n, m;
int subsets[MAX_M];
int dp[MAX_ATOMS];

int min_atoms() {
    int full_set = (1 << n) - 1;
    dp[0] = 0;

    for (int mask = 1; mask <= full_set; mask++) {
        dp[mask] = n;
        for (int i = 0; i < m; i++) {
            if ((mask & subsets[i]) == mask) {
                dp[mask] = 1;
                break;
            }
        }
        for (int submask = mask; submask; submask = (submask - 1) & mask) {
            dp[mask] = dp[mask] < dp[submask] + dp[mask ^ submask] ? dp[mask] : dp[submask] +
            dp[mask ^ submask];
        }
    }

    return dp[full_set];
}

int main() {
    int t;
    scanf("%d", &t);

    while (t--) {
        scanf("%d %d", &n, &m);
        memset(subsets, 0, sizeof(subsets));

        for (int i = 0; i < m; i++) {
            int v, x;
            scanf("%d", &v);
            for (int j = 0; j < v; j++) {
                scanf("%d", &x);
```

```
        subsets[i] |= (1 << x);
    }
}

printf("%d\n", min_atoms());
}

return 0;
}
```